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January 18, 2019

Arthur Burbank USDA Forest Service 4350 South Cliffs Dr. Pocatello, ID 83204

Subject:

Biological Selenium Removal Treatment Technology

Water Treatment Pilot Study December 2018 Progress Report

Dear Art,

This progress report summarizes key activities in December 2018 associated with Phase 2 of the Water Treatment Pilot Study located near Hoopes Spring. This Pilot Study is being conducted as part of the Smoky Canyon Mine Remedial Investigation/Feasibility Study (RI/FS) to provide information on the effectiveness of the active biological treatment system in removing selenium and other COPCs from South Fork Sage Creek Springs and Hoopes Spring.

Work related to the approved Phase 2 Pilot Study continues at the site in accordance with the Final Phase 2 Pilot Study Work Plan and Sampling and Analysis Plan, Ultra-Filtration/Reverse Osmosis and Biological Selenium Removal Fluidized Bed Bioreactor Treatment Technology (Phase 2 WP/SAP).

Identification of Deliverables and Data Transmittals

There were no outstanding deliverables or transmittals for the month of December. At the time of this report, we have received laboratory data for Week 42 and 45. Week 44 samples were not delivered to the lab within some of the sample hold times due to a courier issue. Sampling was conducted Week 45 to replace the Week 44 samples. Preliminary laboratory data are presented in Table 1. The field data for the Week 42 and 45 sampling events is summarized in Table 2.

Completed Activities

The following activities associated with the Phase 2 Pilot Study were completed in December 2018:

Continued system operation and treatment of selenium.

The Treatment System Pilot (TSP) influent concentration for Week 42 and 45 were 149 ug/L and 147 ug/L respectively. The Treatment System Pilot effluent concentration for Week 42 and Week 45 were 30.9 and 22.6 ug/L. The removal efficiency ranged from 79% to 85 % for total selenium removal.

The average flow of the TSP was 1,767 gpm for December. Since full scale operations began in early December 2017 approximately 967 million gallons of impacted water has been treated. The





mass of selenium removed from December 2017 through December 2018 is approximately 990 pounds.

Upcoming Activities

The following activities associated with the Phase 2 Pilot Study are planned through January 2019:

Continue system monitoring in accordance with the sampling and analysis plan.

Please contact me if there are questions regarding this monthly progress report.

Sincerely,

Jeffrey Hamilton

Environmental Engineer

CC:

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Table 1-1 Laboratory Results Full Analyte List

Station >> Sample ID >> Date >> Dat	Influent	Week 42 Ultra Filtration Backwash	Effluent	
Date >> Units	SC1218-LSSHS-IN001	SC1218-LSSHS-UFB001	SC1218-LSSHS-EF00	
Analyte Seneral Chemistry Wakalinity, Total as CaCO3 Bicarbonate, as N Bicarbonate, as CaCO3 B	301210-233113-111001	12/5/2018	001210-200110-2100	
Seneral Chemistry Sikalinity, Total as CaCO3 mg/L		1270/2010	Violentia	
Alkalinity				
Sicarbonate, as CaCO3	200	40	210	
Carbonate, as CaCO3 mg/L Ammonia, as N mg/L Ammonia, as N mg/L Chemical Oxygen Demand mg/L Chord mg/L Claurice mg/L Claurice mg/L Claurice mg/L Coc mg/L SS mg/L Muritiete mg/L Muritiete mg/L Major Cations and Anions mg/L Calcium, Dissolved mg/L Magnesium, Dissolved mg/L Calcium, Dissolved mg/L Calcium, Dissolved mg/L Coldium, Dissolved mg/L Metals and Metalloids mg/L Murinum, Dissolved mg/L Murinum, Dissolved mg/L Murinum, Dissolved mg/L Murinum, Dissolved mg/L Murinum, Total	200	40	210	
inchemical Oxygen Demand mg/L chemical Oxygen Demand mg/L chemical Oxygen Demand mg/L chloride mg/L cluoride mg/L clioride mg/L	1 U	1 U	10	
Chemical Oxygen Demand mg/L Chloride mg/L Chloride mg/L Claridos mg/L Cl	0.026 U	0.026 U	0.026 U	
Chloride	2 U	2 U	2 U	
Illustriate	5 U	5 U	5 U	
dardness, as CaCO3 mg/L DS mg/L DC mg/L SS mg/L SS mg/L SS mg/L SS mg/L SS mg/L SUtrients Sulfrate + Nitrite, as N mg/L Sulfate mg/L Su	11.6	1.67	15	
DS	0.293	0.0735 J	0.321	
OCC SS mg/L SS mg/L Intrients Ititrate + Nitrite, as N mg/L Ititrate, as N mg/L Ititr	221	38.4	230	
SS mg/L Iutrients Iutrate + Nitrite, as N mg/L Iitrate + Nitrite, as N mg/L Iitrate, as N mg/L Iitrate + Mg/L	344	36	324	
litrate + Nitrite, as N mg/L litrate, as N mg/L lit	0.5 U	0.5 U	0.5 U	
ditrate + Nitrite, as N mg/L ditrate, as N mg/L <	2 U	2 U	2 U	
litrate, as N mg/L sulfate mg		THE PERSON NAMED IN COLUMN		
fulfate mg/L ulfide mg/L ulfide mg/L hosphorus, Total mg/L lajor Cations and Anions calcium, Dissolved mg/L lagnesium, Dissolved mg/L odium, Dissolved mg/L odium, Dissolved mg/L odium, Dissolved mg/L ulminum, Dissolved mg/L ulminum, Dissolved mg/L ulminum, Total mg/L untimony, Total mg/L larium, Dissolved mg/L coron, Total mg/L cadmium, Dissolved mg/L cobalt, Total mg/L cobalt, Total mg/L copper, Dissolved mg/L copper, Total mg/L ang, Dissolved mg/L langanese, Total mg/L langanese, Dissolved mg/L langanese, Dissolved mg/L langanese, Dissolved mg/L lalium, +4 (selenite) mg/L latelenium, +4 (selenite) mg/L latelenium, 10tsolved mg/L latelenium, 10tsolved mg/L latelenium, 10tsolved mg/L latelenium, 10tsolved mg/L latelenium, Dissolved mg/L	0.312	0.12	0.226	
sulfide mg/L rhosphorus, Total mg/L rhosphorus, Total mg/L rhosphorus, Dissolved mg/L rotassium, Dissolved mg/L rotal mg/L	0.31	0.12	0.23	
All Agency Cations and Anions acidium, Dissolved mg/L agency Cotassium, Dissolved mg/L agency Dissolved mg/L a	56.7	9.21	67.6	
Agior Cations and Anions Alcium, Dissolved mg/L Agnesium, Dissolved mg/L Agnesium, Dissolved mg/L Agresium, Dissolved mg/L Agresium, Dissolved mg/L Agresium, Dissolved mg/L Agresium, Dissolved mg/L Auminum, Dissolved mg/L Auminum, Total mg/L Arium, Dissolved mg/L Arium,	10	1 U	1 U	
Action Dissolved Mag/L	0.0358	0.0252	0.216	
Agenesium, Dissolved mg/L obtassium, Dissolved mg/L obtassived mg/L obtassiv				
flagnesium, Dissolved mg/L obassium, Dissolved mg/L on, Dissolved mg/L on, Dissolved mg/L on, Dissolved mg/L on, Dissolved mg/L obassium, +6 (seleniate) mg/L obelenium, +6 (seleniate) mg/L obelenium, Dissolved mg/L obassium, Dissolved mg/L obelenium, Dissolved mg/L	63.7	12.3	66.7	
rotassium, Dissolved mg/L rodium, Dissolved mg/L rotal mg/L	23.9	4.59	25.1	
Metals and Metalloids Metals and Metalloids Metals and Metalloids Muminum, Dissolved mg/L Muminum, Dissolved mg/L Muminum, Total mg/L Muminum, Dissolved mg/L Muminum,	0.722	0.196 J	0.783	
Metals and Metalloids Muminum, Dissolved mg/L Muminum, Total mg/L Muminum, Dissolved mg/L Muminum, Mumin	7.53	1.97	7.96	
Juminum, Total mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Total mg/L Intimony, Total mg/L Intimony, Total mg/L Intimony, Dissolved mg/L Intimony, Dis				
Juminum, Total mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Total mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Total mg/L Intimony, Dissolved mg/L	0,0076 U	0.0076 U	0.0076 U	
Intimony, Dissolved mg/L Intimony, Total mg/L Intimony, Total mg/L Insenic, Dissolved mg/L Insenic, Dissolved mg/L Intimony, Total mg/L Intimony, Total mg/L Intimony, Total mg/L Intimony, Total mg/L Intimony, Dissolved mg/L Intimony, Aleslenite mg/L Intimony, Aleslenite mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Dissolved mg/L Intimony, Aleslenite mg/L Intimony, Dissolved	0.0076 U	0.0298 J	0,0076 U	
antimony, Total mg/L vrsenic, Dissolved mg/L vrsenic, Total mg/L vrsenic, Dissolved mg/L	0.000198 J	0.0000901 J	0.000256 J	
	0.00046 J	0.000222 J	0.000203 J	
Interest	0.000398 U	0.000398 U	0,000398 U	
larium, Dissolved mg/L larium, Total mg/L leryllium, Total mg/L loron, Dissolved mg/L larium, Dissolved mg/L larium, Dissolved mg/L larium, Dissolved mg/L larium, Total mg/L larium, Dissolved mg/L larium, Dissolved mg/L larium, Total mg/L larium, Dissolved mg/L lercury, Total mg/L lercury, Total mg/L lolybdenum, Total mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lelenium, +4 (selenite) mg/L lelenium, +6 (selenate) mg/L lelenium, 10tal mg/L lelenium, Dissolved mg/L	0.000611 J	0.000398 U	0.000398 U	
larium, Total mg/L leryllium, Dissolved mg/L leryllium, Dissolved mg/L loron, Dissolved mg/L loron, Total mg/L loron, Dissolved mg/L langanese, Dissolved mg/L langanese, Dissolved mg/L lercury, Dissolved mg/L lercury, Total mg/L	0.0497	0.00963	0.0345	
teryllium, Dissolved mg/L teryllium, Total mg/L teryllium, Total mg/L toron, Dissolved mg/L toron, Total mg/L toronium, Dissolved mg/L toronium, Total mg/L tobalt, Dissolved mg/L tobalt, Dissolved mg/L topper, Dissolved mg/L topper, Total mg/L	0.0502	0.00896	0.0388	
loron, Dissolved mg/L loron, Total mg/L loron, Total mg/L ladmium, Dissolved mg/L ladmium, Total mg/L ladmium, Total mg/L ladmium, Total mg/L lobalt, Dissolved mg/L lobalt, Dissolved mg/L lobalt, Total mg/L lobalt, Total mg/L loper, Dissolved mg/L loper, Dissolved mg/L loper, Total mg/L loper, Total mg/L loper, Total mg/L loper, Total mg/L lon, Dissolved mg/L langanese, Dissolved mg/L langanese, Dissolved mg/L langanese, Total mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L lercury, Total mg/L lercury, Total mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Total mg/L lelenium, +6 (selenite) mg/L lelenium, +6 (selenate) mg/L lelenium, Total mg/L lelenium, Total mg/L lilver, Dissolved mg/L lallium, Total mg/L	0.0000624 J	0.000047 U	0.0000701 J	
loron, Total mg/L admium, Dissolved mg/L admium, Dissolved mg/L admium, Total mg/L chromium, Total mg/L cobalt, Dissolved mg/L cobalt, Total mg/L copper, Dissolved mg/L copper, Total mg/L copper, Total mg/L copper, Total mg/L copper, Total mg/L ead, Dissolved mg/L ead, Dissolved mg/L ead, Dissolved mg/L langanese, Dissolved mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.0000623 J	0.000047 U	0.0000595 J	
cadmium, Dissolved mg/L cadmium, Total mg/L cadmium, Total mg/L chromium, Total mg/L cobalt, Dissolved mg/L copper, Dissolved mg/L copper, Total mg/L copper, Total mg/L copper, Total mg/L ead, Dissolved mg/L ead, Dissolved mg/L ead, Total mg/L ead, Dissolved mg/L ead, Total mg/L ead, Dissolved mg/L langanese, Dissolved mg/L langanese, Total mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L lercury, Total mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Total mg/L lickel, Total mg/L letenium, +4 (selenite) mg/L letenium, +6 (selenate) mg/L letenium, Dissolved mg/L letenium, Dissolved mg/L lickel, Total mg/L lilver, Dissolved mg/L lilver, Dissolved mg/L lilver, Total mg/L lilver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.0123 J	0.00784 J	0.013 J	
cadmium, Total mg/L chromium, Dissolved mg/L chromium, Dissolved mg/L chromium, Total mg/L cobalt, Dissolved mg/L cobalt, Total mg/L cobalt, Total mg/L cobalt, Total mg/L copper, Dissolved mg/L copper, Total mg/L con, Total mg/L cad, Dissolved mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L clercury, Total mg/L	0.0136 J	0.00924 J	0.0133 J	
Chromium, Dissolved mg/L Chromium, Total mg/L Chromium, Total mg/L Cobalt, Dissolved mg/L Cobalt, Total mg/L Copper, Dissolved mg/L Copper, Total mg/L Con, Dissolved mg/L Copper, Total mg/L Copper, T	0.0000362 U	0.0000362 U	0.0000362 U	
Chromium, Total mg/L Cobalt, Dissolved mg/L Cobalt, Total mg/L Copper, Dissolved mg/L Copper, Dissolved mg/L Copper, Total mg/L	0.0000362 U	0.0000362 U	0.0000362 U	
Cobalt, Dissolved mg/L Cobalt, Total mg/L Cobalt, Total mg/L Copper, Dissolved mg/L Copper, Total mg/L Coppe	0.000381 J	0.000129 J	0.000341 J	
Cobalt, Total mg/L Copper, Dissolved mg/L Copper, Total mg/L Copper, Total mg/L Copper, Total mg/L Copper, Dissolved mg/L Copper, Total mg/L Copper, Dissolved m	0.000921 J	0.000718 J	0.000747 J	
copper, Dissolved mg/L copper, Total mg/L copper, Total mg/L copper, Total mg/L con, Dissolved mg/L con, Total mg/L ead, Dissolved mg/L ead, Total mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L lercury, Total mg/L lercury, Total mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Total mg/L letenium, +4 (selenite) mg/L letenium, +6 (selenate) mg/L letenium, Total mg/L lilver, Dissolved mg/L lilver, Total mg/L lilver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.000124 J	0.0000592 J	0.00842	
Copper, Total mg/L on, Dissolved mg/L on, Total mg/L ead, Dissolved mg/L ead, Total mg/L danganese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L folybdenum, Dissolved mg/L lickel, Dissolved mg/L lickel, Total mg/L letenium, +4 (selenite) mg/L letenium, +8 (selenate) mg/L letenium, Dissolved mg/L silver, Total mg/L lilver, Dissolved mg/L mallium, Dissolved mg/L hallium, Dissolved mg/L	0.000128 J	0.0000771 J	0.00843	
on, Dissolved mg/L on, Total mg/L ead, Dissolved mg/L ead, Total mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lolybdenum, Dissolved mg/L lolybdenum, Total mg/L lickel, Dissolved mg/L lickel, Total mg/L leelenium, +4 (selenite) mg/L leelenium, +6 (selenate) mg/L leelenium, Dissolved mg/L ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.0000418 U	0.0000674 J	0.0000928 J	
on, Total mg/L ead, Dissolved mg/L ead, Dissolved mg/L ead, Total mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L letrury, Total mg/L lolybdenum, Dissolved mg/L lolybdenum, Total mg/L lickel, Dissolved mg/L letenium, +4 (selenite) mg/L elenium, +6 (selenate) mg/L elenium, Dissolved mg/L ilver, Dissolved mg/L letenium, Dissolved mg/L litver, Dissolved mg/L litver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.000358 J	0.000704 J	0.000784 J	
ead, Dissolved mg/L ead, Total mg/L langanese, Dissolved mg/L langanese, Total mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L lercury, Total mg/L lolybdenum, Dissolved mg/L lickel, Dissolved mg/L lickel, Dissolved mg/L lickel, Total mg/L lelenium, +4 (selenite) mg/L lelenium, +6 (selenate) mg/L lelenium, Dissolved mg/L lelenium, Dissolved mg/L lelenium, Dissolved mg/L lelenium, Dissolved mg/L lilver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.01 U	0.01 U	0.0201 J	
ead, Total mg/L langanese, Dissolved mg/L langanese, Total mg/L lercury, Dissolved mg/L lercury, Total mg/L lolybdenum, Dissolved mg/L lolybdenum, Total mg/L lickel, Dissolved mg/L lickel, Total mg/L lickel, Total mg/L lelenium, +4 (selenite) mg/L lelenium, +6 (selenate) mg/L lelenium, Dissolved mg/L lelenium, Total mg/L lelenium, Total mg/L lilver, Dissolved mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.01 U	0.0398 J	0.374	
Manganese, Dissolved mg/L Manganese, Total mg/L Mercury, Dissolved mg/L Molybdenum, Dissolved mg/L Molybdenum, Total mg/L Molybdenum, Dissolved mg/L Molybdenum, Total mg/L Molybdenum, Total mg/L Molybdenum, Dissolved mg/L Molybdenum, Total mg/L Molybdenum, Total mg/L	0.0000554 U	0.0000554 U	0.0000554 U	
Ianganese, Total mg/L Iercury, Dissolved mg/L Iercury, Dissolved mg/L Iolybdenum, Dissolved mg/L Iolybdenum, Total mg/L Iolybdenum, Total mg/L Ickel, Dissolved mg/L Ickel, Total mg/L Ielenium, +4 (selenite) mg/L Ielenium, 0 (selenate) mg/L Ielenium, Dissolved mg/L Ielenium, Total mg/L Iilver, Dissolved mg/L Iilver, Total mg/L Inlium, Dissolved mg/L Inlium,	0.0000554 U	0.0000554 U	0.0000554 U	
tercury, Dissolved mg/L tercury, Total mg/L tolybdenum, Dissolved mg/L tolybdenum, Total mg/L tolybdenum, Total mg/L tickel, Dissolved mg/L tickel, Dissolved mg/L telenium, +4 (selenite) mg/L telenium, +6 (selenate) mg/L telenium, Dissolved mg/L telenium, Dissolved mg/L telenium, Dissolved mg/L tilver, Total mg/L tilver, Total mg/L tilver, Total mg/L tilver, Total mg/L tallium, Dissolved mg/L hallium, Dissolved mg/L	0.000307 J	0.000238 J	0.0256	
	0.00062 J	0.00293	0.0262	
folybdenum, Dissolved mg/L folybdenum, Total mg/L lickel, Dissolved mg/L lickel, Total mg/L elenium, +4 (selenite) mg/L elenium, +6 (selenate) mg/L elenium, Dissolved mg/L elenium, Total mg/L ilver, Dissolved mg/L mg/L mg/L mg/L mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.000051 J	0.000055 J	0.000053 J	
tolybdenum, Total mg/L lickel, Dissolved mg/L lickel, Total mg/L elenium, +4 (selenite) mg/L elenium, +8 (selenate) mg/L elenium, Dissolved mg/L elenium, Dissolved mg/L ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Dissolved mg/L	0.000046 J	0.000048 J	0.000055 J	
lickel, Dissolved mg/L lickel, Total mg/L elenium, +4 (selenite) mg/L elenium, +6 (selenate) mg/L elenium, Dissolved mg/L elenium, Total mg/L ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.00202	0.000356 J	0.0137	
lickel, Total mg/L elenium, +4 (selenite) mg/L elenium, +6 (selenate) mg/L elenium, Dissolved mg/L elenium, Total mg/L elenium, Total mg/L elenium, Total mg/L elenium, Dissolved mg/L elenium, Total mg/L elenium, Total mg/L elenium, Total mg/L	0.00211	0.000343 J	0.0137	
elenium, +4 (selenite) mg/L	0.0000815 J	0,0000533 U	0.00762	
elenium, +6 (selenate) mg/L elenium, Dissolved mg/L elenium, Total mg/L ielenium, Total mg/L iilver, Dissolved mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.000445 J	0.000478 J	0.00912	
elenium, Dissolved mg/L elenium, Total mg/L ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.00005 U	0.00005 U	0.027	
elenium, Total mg/L ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.15	0.0271	0.00273	
ilver, Dissolved mg/L ilver, Total mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.151	0.0267	0.0294	
ilver, Total mg/L hallium, Dissolved mg/L hallium, Total mg/L	0.149	0.0226	0.0309	
hallium, Dissolved mg/L hallium, Total mg/L	0.0000221 J	0.0000172 U	0.0000217 J	
hallium, Total mg/L	0.0000207 J	0.0000172 U	0.0000172 U	
	0.0000657 U	0.0000657 U	0.0000657 U	
	0.0000657 U	0.0000657 U	0.0000657 U	
ranium, Dissolved mg/L	0.00155	0.00022 J	0.00165	
Iranium, Total mg/L	0.00166	0.000223 J	0.00174	
anadium, Dissolved mg/L	0.00081 J	0,00014 U	0.000417 J	
/anadium, Total mg/L	0.00285	0.00236	0.00247	
Zinc, Dissolved mg/L Zinc, Total mg/L	0.00613 0.00774	0.00223 J 0.00126 J	0.00102 J 0.00069 J	

Notes:

Results presented are preliminary, and have not been validated at the time of this report.

U - Analyte not detected above the method detection limit (MDL).

J - Result is estimated.

Table 1-2 Laboratory Results Full Analyte List

		Week 45					
	Station >>		Ultra Filtration Backwash	Effluent SC1218-LSSHS-EF002			
Sample ID >>		SC1218-LSSHS-IN002	SC1218-LSSHS-UFB002				
	Date >>	12/26/2018					
Analyte	Units		APPLICATION OF THE PROPERTY OF				
General Chemistry							
Ammonia, as N	mg/L	0.026 U	0.026 U	0.026 U			
Biochemical Oxygen Demand	mg/L	2	2 U	2			
TSS	mg/L	2 U	2 U	2 U			
Nutrients							
Nitrate, as N	mg/L	0.38	0.14	0.42			
Sulfide	mg/L	1 U	1 U	1 U			
Phosphorus, Total	mg/L	0.0226	0.0167	0.155			
Metals and Metalloids							
Selenium, Dissolved	mg/L	0.162	0.0208	0.0238			
Selenium, Total	mg/L	0.147	0.0201	0.0226			

Notes:

Results presented are preliminary, and have not been validated at the time of this report.

- U Analyte not detected above the method detection limit (MDL).
- J Result is estimated.

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Table 2 Field Water Quality Data

		Parameter >>	Dissolved Oxygen	ORP	pН	SC	Temperature	Turbidity
		Units >>	mg/L	mV	SU	umhos/cm	C	NTU
Station	Sample ID	Date			and the second			
Week 45								
Influent	SC1218-LSSHS-IN002	12/26/2018	7.31	76	7.5	506	13.52	1.2
Ultra Filtration Backwash	SC1218-LSSHS-UFB002	12/26/2018	7.77	80	7.55	104	13.29	1.4
Effluent	SC1218-LSSHS-EF002	12/26/2018	7.68	75	7.49	477	13.34	9.2

Notes:

Week 42 field parameters were not collected due to the water treatment plant sending their multimeter in for servicing.